IN THE CLAIMS:

Claim 1 (previously presented): A non-imaging device for increasing a collection efficiency of light received from an at least four solid state sources of light and subsequently emitting light towards a micro-display in an optical system for image projection, the non-imaging device comprising at least a quad total internal reflection based compound hyperbolic emitter integrally mounted on a die having at least one solid state device.

Claim 2 (currently amended): The non-imaging device of claim 1, wherein the at least four solid state sources of light [[is]] are at least one of a red, blue or a green light emitting diode.

Claim 3 (previously presented): A non-imaging device for increasing a collection efficiency of light received from at least one solid state source of light subsequently emitting light towards a mark or display in an optical system for image projection, the non-imaging device comprising a total internal reflection based compound hyperbolic emitter integrally mounted on a die having a least one solid state device; and wherein a cavity in the compound hyperbolic emitter includes an index matched encapsulent for substantially coupling light emitted from the at least one solid state source of light with the compound hyperbolic emitter.

Claim 4 (original): A non-imaging device for increasing an emission efficiency of light received from an at least one solid state source of light, in an optical system for image projection, the non-imaging device including a quad total internal reflection based compound hyperbolic emitter integrally mounted on a plurality of dies, wherein each die in the plurality of dies includes the at least one solid state source of light.

Claim 5 (original): The non-imaging device of claim 4, wherein the quad total internal reflection based compound hyperbolic emitter includes a plurality of individual total internal reflection based compound hyperbolic emitters designed to cover the plurality of dies or die areas or parts thereof.

Claim 6 (original): The non-imaging device of claim 5, wherein each of the individual total internal reflection based compound hyperbolic emitters are substantially aligned with a corner of each of the plurality of dies to completely cover the plurality of dies.

Claim 7 (original): The non-imaging device of claim 4, wherein at least one solid state source of light is a light emitting diode.

Claim 8 (original): The non-imaging device of claim 4, wherein a cavity in each of the individual compound hyperbolic emitter includes an index matched encapsulent for substantially

coupling light emitted from at least one solid state source of light with the individual compound hyperbolic emitter.

Claim 9 (previously presented): A device for combining a plurality of signals transmitted from an array of light emitting diodes of at least two different colors to a means for modulating image signals onto said plurality of signals in an optical system for image projection, the device comprising a structure formed from a plurality of dichroic or graduated dichroic filters provided before said means for modulating and after said array of light emitting diodes in said optical system.

Claim 10 (original): The device of claim 9, wherein the graduated dichroic filters include at least one of a red dichroic filter or a blue dichroic filter.

Claim 11 (previously presented): A device for providing uniformity of a beam of light at a micro-display, in an optical system for image projection including a plurality of optical elements provided in an optical path of said optical system before micro-display, the device including a diffuser positioned substantially away from a source of said beam of light and among said plurality of optical elements adjacent to a last one of said plurality of optical elements in said optical system.

Claim 12 (previously presented): The device of claim 11, wherein the diffuser is positioned at a point in space, in the optical system for image projection, where the spread of a beam of light is substantially at a maximum, and wherein the beam of light is formed by combining light originating from an array of solid state sources of light of at least two different colors.

Claim 13 (original): An optical system for use in projection displays, the system comprising: an array of solid state light sources, wherein each of the solid state light sources in the array being associated with a non-imaging device for increasing an emission efficiency of light output from the array of solid state light sources; a dichroic filter based device for combining a plurality of signals transmitted from an array of solid state light sources and formed from a plurality of dichroic filters; a microdisplay for illumination with light output from the array of solid state light sources; a diffuser for homogenization of light at the microdisplay, wherein the diffuser is positioned at a point in space, in the optical system, where the spread of a beam of light transmitted from the dichroic filter based device is substantially at a maximum.

Claim 14 (original): The optical system of claim 13 wherein the non-imaging device is a total internal reflection based compound hyperbolic emitter.

Claim 15 (original): The optical system of claim 13 wherein the array of solid state light sources includes red, blue and green light emitting diodes.

Claim 16 (original): The optical system of claim 13 further including a plurality of Fresnel lenses.

Claim 17 (original): The optical system of claim 13 further including a polarizing beam splitter for linearly polarizing light delivered to the microdisplay.

Claim 18 (original): The optical system of claim 17 further including a light trap for suppressing orthogonally polarized non-signal light reflected from the polarizing beam splitter.

Claim 19 (original): The optical system of claim 15 wherein the non-imaging device is a total internal reflection based compound hyperbolic emitter associated with a light emitting diode.

Claim 20 (original): The optical system of claim 15 wherein the non-imaging device is a quad total internal reflection based compound hyperbolic emitter associated with an array of light emitting diodes.

Claim 21 (original): The optical system of claim 20 wherein the aperture of the quad compound hyperbolic emitter is circular.

Claim 22 (original): The optical system of claim 20 wherein the aperture of the quad compound hyperbolic emitter is triangular or another polygonal shape.

Claim 23 (new): A device for providing uniformity of a beam of light at a micro-display, in an optical system for image projection including a plurality of optical elements provided in an optical path of said optical system before micro-display, the device including a diffuser positioned substantially away from a source of said beam of light and among said plurality of optical elements.